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ABSTRACT

In this teacher education kit, participants use a wide range of media and materials including slides, serial photos, census data, and video tape to work through exercises from the High School Geography Project. These exercises provide a basis for analysis of the discrepant data teaching procedures in which various media are used to lead students to make certain expectations or generalizations. Students are then presented with additional data which show that these expectations do not always hold true. In attempting to explain the differences, students recognize that they can overlook certain data because of personal biases or stereotypes. The kit is divided into five exercises including (1) An Exercise About Three Neighborhoods in New Orleans, (2) Clarification of the Discrepant Data Teaching Procedure, (3) Analysis of an Exercise About the Cultural Characteristics of Cities, (4) Analysis of the Video Tape, and (5) Classroom Application. Included are an instructor's guide and participant's manual. (Author/DE)

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TEACHING PROCEDURES FOR THE NEW SOCIAL STUDIES

USING MEDIA TO STIMULATE INQUIRY

by Ronald J.B. Carswell
Robert M. Cason

INSTRUCTOR'S GUIDE
and
PARTICIPANT'S MANUAL

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USING MEDIA TO STIMULATE INQUIRY

Instructor's Guide

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Rationale for Using Media to Stimulate Inquiry

Many of the new social studies courses give students opportunities to examine data using variations of the scientific method. Although much has been written about inquiry and the use of problem-solving approaches, teachers at all levels of instruction are often unsure about how to begin an inquiry sequence so that participants become interested and motivated to continue the study. This kit offers a procedure for beginning inquiry studies with high school students. In their description of the classroom role of the inquiry-oriented teacher, Massialas and Zevin emphasize the importance of providing a good beginning for an inquiry sequence by stating, "Often he introduces the initial material that will serve as a springboard for inquiry and discussion. The preparation that goes into the construction of this material can never be overestimated."[1]

Another major topic of this kit is that of verifying student generalizations. The rules of scientific inquiry require that all data be carefully considered and that the student be aware of his biases so that they will have less influence on his conclusions. The "discrepant data" teaching procedure outlined in this kit should help the participants, as teachers, help their students to know some of their stereotypes and biases.

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[1]Massialas, Byron G., Jack Zevin. Creative Encounters in the Classroom, New York: John Wiley and Sons, 1967, p.25.

In the "discrepant data" teaching procedure, various media are used to lead students to make certain expectations or generalizations. Then students are presented with additional data which show that these expectations do not always hold true. In attempting to explain the differences between what students at first believed and what they now have seen, students recognize that they can overlook certain data because of personal biases or stereotypes.

Suchman summarizes the use of discrepant data in the following way:

> "The child becomes an inquirer when he is faced by some event or situation that challanges his idea of the universe. Such discrepant events create dissonance within the cognitive systems of the perceiver. They also provide a focal point for the initiation of the inquiry process and an initial motivation to overcome the inertia of complacency - the complacency that grows out of the satisfaction of one's existing state of knowledge. Unless one can be pried loose from a tenacious hold on this knowledge as the absolute truth, conceptual reorganization and expansion are not possible."[2]

In this kit, participants work with a wide range of media and materials, including slides, aerial photos and census data. Throughout the kit participants are inquiring, either as students, learning the processes of information gathering and analysis, or as teachers,

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[2]Suchman, J. Richard. "Learning Through Inquiry," Childhood Education, 41 (February, 1965), pp. 289-291.

extracting procedures and applying them to new teaching situations.

Overview of the Kit

The Overview Chart on page 4 has been included to give you a summary of the activities and media comprising this kit. You will note that about 250 minutes, or five hours, are needed to complete the kit.

The activities are flexible so that they may be combined into larger sections or divided into smaller segments, depending on the length of your class period. For example, if you have one hour class periods, your five periods could be organized in this way:

meeting 1 - introduction and part of the Three Neighborhoods exercise

meeting 2 - complete Three Neighborhoods exercise and clarify discrepant data teaching procedure

meeting 3 - analysis of the Cities exercise

meeting 4 - viewing and analysis of video tape

meeting 5 - application of the teaching procedure

If you meet for one and one-half hour class periods, you would need three full class periods and part of a fourth. Your time might be organized in this way:

meeting 1 - introduction and Three Neighborhoods exercise

meeting 2 - clarify discrepant data teaching procedure and analysis of the Cities exercise

Overview Chart of Teaching Times, Purposes, Procedures and Materials

Parts	Purpose	Procedures	Materials
I - Introduction and Exercise about Three Neighborhoods in New Orleans - 65 minutes	Introduce the participants to the discrepant data procedure through participation in an exercise.	Participants study three residential neighborhoods and try to account for observed socio-economic differences.	3 stereograms 2 topographic maps census tract data 22 slides of neighborhoods
II - Clarification of Discrepant Data Teaching Procedure 35 minutes	Familiarize participants with the elements of the discrepant data procedure.	Through class discussion the instructor clarifies the discrepant data procedure.	1 transparency
III - Analysis of an Exercise about the Cultural Characteristics of Cities 50 minutes	Reinforce the participants' understanding of the discrepant data teaching procedure.	Participants view slides of cities around the world in an exercise which uses the discrepant data approach. Participants work in small groups to analyze the exercise.	15 slides of various cities
IV - Analysis of the Video Tape - 50 minutes	Clarification of the advantages and disadvantages of using media to encourage inquiry.	Participants observe class doing Three Neighborhoods exercise. Discussion focuses on classroom organization and characteristics of teaching.	video tape
V - Application 50 minutes	Give participants experience in using the discrepant data procedure.	Participants may teach an activity having the discrepant data teaching procedure.	12 slides of Japan and North America

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meeting 3 - viewing and analysis of video tape and begin the application section

meeting 4 - complete application section in first half hour of class

If your group meets for three hour periods, two meetings will be required to complete the kit. Your sessions might be organized in this way:

meeting 1 - introduction, Three Neighborhoods exercise, clarification of the discrepant data procedure, and analysis of the Cities activity

meeting 2 - viewing and analysis of video tape and application of the teaching procedure

You should refer the participants to pages 3-4 of the Participant's Manual which contain a brief introduction and explanation of the procedures in the kit. You may wish to expand this introduction to be sure that the participants understand:

1. Why they are participating in adaptations of some of the High School Geography Project's classroom activities.

If the participants have worked with another HSGP kit, they already know that the activities provide a background for discussion and exemplify a teaching procedure.

2. The role they should play while participating in this kit.

The activities which are included are challenging enough so that the participants can be themselves while solving the problems.

3. The sequence of activities in the kit.

A description of the major activities is contained in this "Overview of the Kit," in the chart on page 4 and in the Participant's Manual beginning on page 3.

In Part I the participants are introduced to this kit. Then the participants complete an exercise adapted from the "New Orleans" activity in the Geography of Cities unit. This unit is contained in the High School Geography Project's course Geography in an Urban Age which is published by The Macmillan Company.

In the exercise in this kit, three contrasting neighborhoods are examined and hypotheses about the socio-economic characteristics of the areas are formed. Then the participants use census data to check their hypotheses. The participants note the stereotypes that may have influenced some of their generalizations about the characteristics of the neighborhoods.

Part II, the shortest sequence in this kit, is the most important part because the discrepant data teaching procedure is explained. Class discussion prepares the participants to understand the elements of the teaching procedure. Then, with the transparency master provided on page 30 of this guide, the teaching technique is illustrated in detail.

In Part III the participants view two sets of slides showing cities around the world. This exercise is adapted from the High School Geography Project's

classroom activity, "Culture Change: A Trend Toward Uniformity," from the Cultural Geography unit. The first set of slides shows traditional parts of cities around the world that are easily identifiable from cultural clues. The second set of slides, the downtown sections of various cities around the world, are very difficult to identify because the cities look much alike. The participants work in groups to analyze this exercise about cities to determine some of the characteristics of the discrepant data teaching procedure.

In Part IV of the kit, the participants view a video tape of a high school class working on the three neighborhoods part of the "New Orleans" activity. Then the participants discuss the advantages and problems of the demonstrated teaching procedure. Participants consider teacher behavior, student behavior, and classroom management.

In Part V the participants have an opportunity to apply the discrepant data teaching procedure. Participants can prepare a classroom activity using the discrepant data procedure. They also can teach the activity that they planned.

Participant Objectives

After completing this kit, participants should be more likely to and better able to:

1. Teach an activity which uses the discrepant data procedure in an open-ended manner.

2. Devise an activity which uses the discrepant data procedure to help students re-formulate their generalizations.

3. Utilize source materials such as topographic maps, aerial photos, slides, and tabular material.

4. Discuss the advantages and disadvantages of using a variety of media to help students validate their generalizations.

Planning Suggestions and Materials Check List

The Overview Chart on page 4 of this guide lists activities and materials for each part of the kit. For ease of reference advance planning suggestions and the materials required for each part of the kit also are described below.

For Part I of the kit you will need the following items:

1 - "New Orleans and Vicinity," USGS map

15 - "New Orleans East," NE/4, New Orleans 15' Quadrangle

15 - "Spanish Fort," SE/4 Spanish Fort 15' Quadrangle

15 - Stereograms, 5/7 (Neighborhood 1)

15 - Stereograms, 6/7 (Neighborhood 2)

15 - Stereograms, 7/7 (Neighborhood 3)

10 - Stereoviewers

15 - "Topographic Map Symbols" sheets

15 - Topographic Map pamphlets

15 - Census Tract Data sheets

6 - Slides of Neighborhood 1 (numbered 1-6)

5 - Slides of Neighborhood 2 (numbered 7-11)

5 - Slides of Neighborhood 3 (numbered 12-16)

In the materials you received for this kit should be 15 envelopes, each marked "Participant Package." This package should contain one copy of each of the following: Spanish Fort map, New Orleans East map, stereograms 5/7, 6/7, and 7/7, Topographic Map Symbols sheet, Topographic Map pamphlet, and Census Tract data sheet.

Ten stereoviewers are packed separately and one viewer should be put in each Participant Package before the class begins to work on Part I. If your group is larger than 20, participants will have to work in groups larger than two or you will have to obtain additional stereoviewers to place in the Participant Packages. Stereoviewers might be obtained from departments of geography or geology in most colleges or science departments in many school systems.

You will also need to arrange for a slide projector and screen for this exercise in Part I.

Since many of the participants will have had little or no experience with topographic maps, stereograms and

stereoviewers, this brief background information is provided to help you introduce the materials to the participants. By having to use the media, the participants become acquainted with them. But the construction, characteristics and many uses of topographic maps and aerial photographs will not be considered in this kit. Rather, topographic maps and stereograms should be treated as sources of data to help solve problems.

If your participants wish to learn more about the media, the bibliography on page 35 of the Participant's Manual provides sources of information about topographic maps and aerial photographs.

You will want to familiarize yourself with the section about topographic maps on page 5 of the Participant's Manual. You will probably want to emphasize to the participants that topographic maps show in great detail a small part of the surface of the earth. Consequently, close study of a topographic map will reveal a large amount of information. The two items about topographic maps included in the Participant Package (topographic map symbol sheet, topographic map pamphlet) help to interpret the symbols used on the maps. You will find that the participants will begin to acquire the skills of map reading as they use topographic maps in this exercise.

Stereograms are explained on page 6 of the Participant's Manual. To help the participants understand how

aerial photographs of an area are taken and where the study area is located on the stereograms, you might want to display one set of stereograms aligned end to end to show the flight path. In order to get more of the effect of a continuous picture, you can overlap some of the sections of individual stereograms.

Stereoscopes, which enable the viewer to see the stereogram in three dimensions, are explained on pages 7-8 of the Participant's Manual. Caution participants not to place the weight of their head on the stereoscope since it is fragile. A very few participants may never master the use of stereoscopes as a very small percentage of the population is unable to resolve the two images on a stereogram into one image.

For Part II you will need:

1 - Transparency master, "Discrepant Data Teaching Procedure"

You should make the transparency master on page 30 of this guide into an overhead transparency prior to the time you wish to use it during Part II of the kit. You will also need to order an overhead projector for Part II.

For Part III you will need the following items:

9 - Slides of traditional style buildings (numbered 51-59)

6 - Slides of modern cities (numbered 60-65)

For the exercise about cities in Part III you will need to arrange for a slide projector and screen.

For Part IV of this kit you wi u will need:

1 - Video tape, Volume SS 812 812, "The Classroom As It Is," Part IV. 22 minutes. tes.

For Part IV you also will nee need to arrange for the video tape console and monitor. Th The tape to be screened for this exercise runs about 22 min minutes. You will want to preview the tape before you actuall ally use it.

In part V you will need:

12 - Slides showing scenes in in North America and Japan (numbered 70 to 81 81)

In preparation for helping th the participants apply the discrepant data teaching proced cedure, you first should review the two applications suggest ested, beginning on page 52 of this guide. You may wish to ass assign only one of the alternatives or both of them, depen pending on the time you have available and how useful y l you feel each application will be for your participants. If If Application One is selected, you will need to arrange ge for a slide projector and screen.

The slides used in this part art are from "Introduction to Japan," from the High School Geo Geography Project's Japan unit which will be published by The The Macmillan Company.

PART I: AN EXERCISE ABOUT THREE NEIGHBORHOODS IN NEW ORLEANS

In this section the participants take part in an activity which uses the discrepant data teaching procedure. The Three Neighborhoods exercise uses a variety of media and is designed to shatter some of the participants' stereotypes or inaccurate generalizations and to emphasize the hazards of drawing conclusions based on limited evidence.

The class may veer into discussion of topics that extend well beyond the limits of this activity. However, to complete the exercise in the allotted time, you and the participants should stay close to the topics brought out by the questions in this guide.

Major Sections of the Exercise

There are four major sections to this exercise:

1. In the "Introduction to Three Neighborhoods" participants are introduced to stereograms, stereoviewers, topographic maps, and the problem to be solved. (15 minutes)

2. In the "Analysis of Neighborhoods One and Two," the participants hypothesize about the socio-economic characteristics of the populations in neighborhoods one and two from a study of the sources provided. Then participants compare their hypotheses with data taken from a census tract. (20 minutes)

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3. In "Neighborhood Three" the participants hypothesize about the characteristics of the third neighborhood. Finally, the participants check their hypotheses against census tract data and find that they may have made some inaccurate hypotheses about that neighborhood. (15 minutes)

4. "Summary Discussion" has the participants briefly discuss which hypotheses were substantiated and which were inaccurate, as well as why some of their hypotheses were inaccurate. (15 minutes)

Materials

The materials needed for this exercise include the Participant Package and other items listed on pages 8-9 of this guide. You may need to arrange for additional stereo-viewers and you will need to have a slide projector and screen available.

Introduction to the Three Neighborhoods Exercise

Before you begin this exercise you will need to be completely familiar with the materials used and have reviewed the section in the Participant's Manual from pages 4-15.

The three neighborhoods to be studied can be located on the "New Orleans and Vicinity" topographic map. This large map should be posted on a bulletin board in full view of the class. You may want to use pins and yarn to

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mark off the area shown in the aerial photographs. Place a pin on the map just north of the tip of land that juts into Lake Pontchartrain. New Orleans Lakefront Airport will help you locate the area which is about 2 inches east of the grid line marked 2'30". When you connect the pins with yarn, you have marked the eastern edge of the area shown in the sequence of stereograms. To mark the western edge the pins should be placed on the 5' line. In the north, this is about where Bayou St. John empties into Lake Pontchartrain. The yarn will enclose the rectangle marked off by the pins and will approximate the study area.

Adjacent to this display, you may wish to mount the stereograms showing the same area. If you do so, stereogram 7/7 will appear at the top and stereogram 5/7 at the bottom of the flight line. You could trim off or fold back the right hand or furthest north view on stereograms 5/7 and 6/7 so that when the three views (5/7, 6/7, and 7/7) are mounted together, you have a continuous photograph or mosaic of photographs. The study area is shown on the location map found in this guide on page 16.

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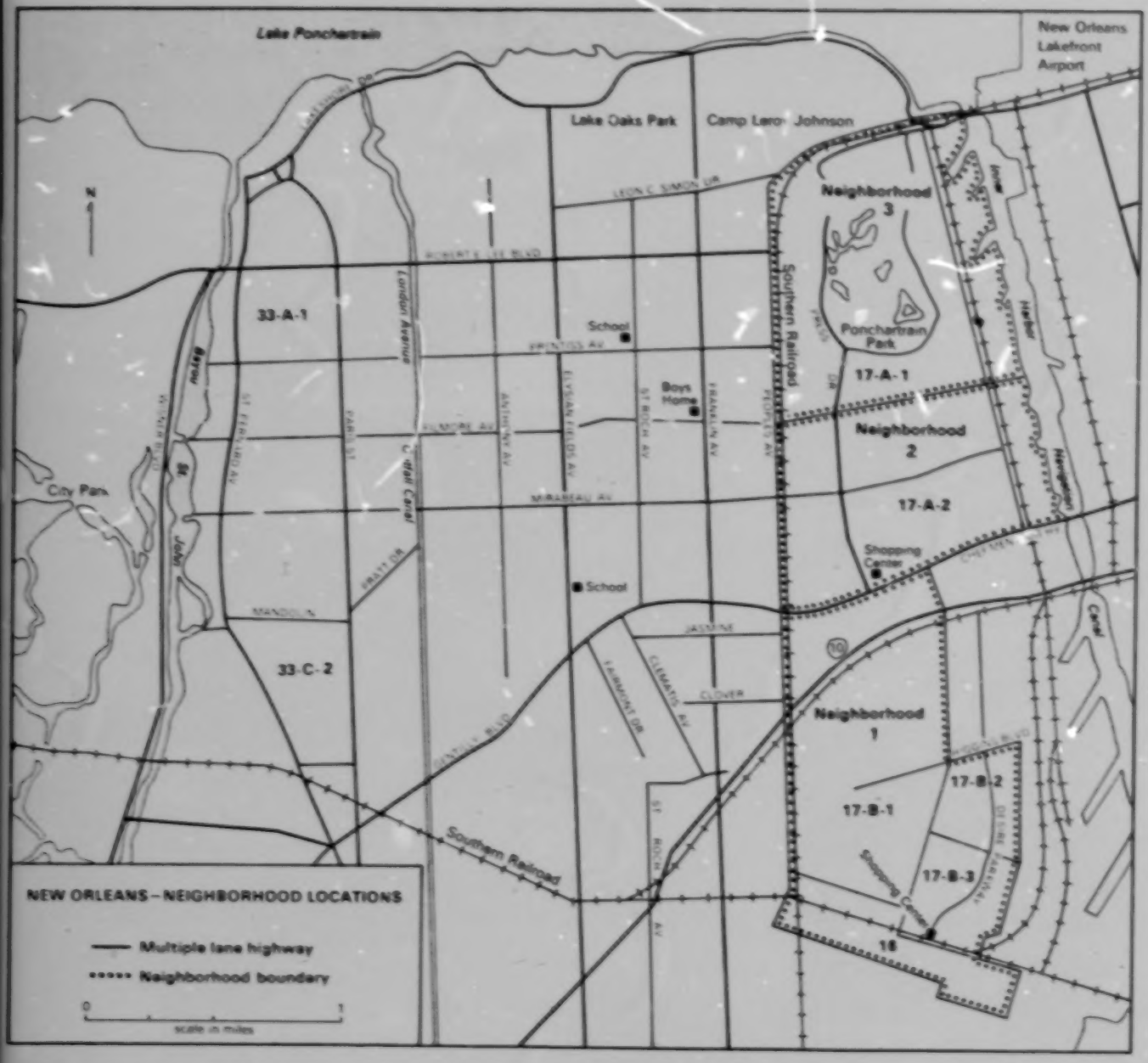
Lake Pontchartrain
New Orleans Lakefront Airport
Lake Oaks Park
Camp Leroy Johnson
LEON C SIMON DR
Neighborhood 3
Southern Railroad
Ponchartrain Park
17-A-1
Neighborhood 2
17-A-2
33-A-1
School
Boys Home
London Avenue
Canal
Bayou
City Park
MIRABEAU AV
Shopping Center
School
33-C-2
Neighborhood 1
17-B-2
17-B-1
17-B-3
Southern Railroad
NEW ORLEANS – NEIGHBORHOOD LOCATIONS
Multiple lane highway
Neighborhood boundary
0
1
scale in miles

This part of the exercise should take about 15 minutes. To introduce this activity tell the participants that they are about to be involved in an exercise which requires them to make guesses or hypotheses about the characteristics of three neighborhoods in New Orleans. Refer them to page 4 of the Participant's Manual for details of their task.

When they understand what to do, the participants should be arranged in pairs and should check the contents of their Participant Package as outlined in the Participant Manual on pages 5-9. The purpose of this brief activity is to have the participants familiarize themselves with the materials that they will be using.

When the participants have examined their materials refer them to the section entitled "Locating the Study Area" in the Participant's Manual on page 9. To assist the participants in locating the area, you could focus their attention on the New Orleans and Vicinity topographic map and the aerial photos which are displayed. You could show them the neighborhoods on both types of media.

The participants may have difficulty relating the stereograms to the topographic maps and you will probably need to help some groups.

Analysis of Neighborhoods One and Two

This section of the exercise should take about 20 minutes. Refer the participants to the section entitled

"Analysis of Neighborhoods One and Two" on pages 11-15 of the Participant's Manual for directions. You may want to remind the participants to record their answers to the questions on a separate sheet of paper.

After the participants have been studying the materials for about 10 minutes, you should show them the slides numbered one to six of Neighborhood One. A brief description of each slide follows:

Slide 1, Public Housing in Neighborhood One. This photograph is a general view showing the integrated housing located on the north side of the neighborhood.

Slide 2, Intersection of Law and Desire Streets. This photograph shows the neighborhood laundromat and bars with the public housing in the background.

Slide 3, Looking north at the intersection of Law and Desire Streets showing neighborhood bars.

Slide 4, Looking north on Law Street showing lower-middle class Negro residential area.

Slide 5, Looking west on Law Street toward the Southern railroad. Note the abandoned automobiles on the street.

Slide 6, Looking south on Clouet Street. Note the lower cost housing units on pilings or high foundations. The area is below sea level and subject to severe flooding during heavy storm conditions.

Questions about Neighborhood One, found on pages 11-12

of the Participant's Manual, are repeated here with suggested answers.

1. Using stereograms 5/7 and 6/7, and the New Orleans East topographic map, examine Neighborhood One to determine following:

a. size of buildings

b. size of lots

c. age of buildings

d. amount of open space

e. types of buildings

f. street patterns

Neighborhood One has a large public housing project with many small houses on small crowded lots. Except for the public housing, most of the houses are old and were built as single family dwellings. There are also several schools and factories in the area. There is a rectilinear grid pattern of streets in the older area with some curved streets in the public housing area. There are large areas of open space, but they appear to be unused or underdeveloped land.

2. If you were to walk through this neighborhood, what would you expect to find?

Here participants have a chance to suggest some cultural features which are likely to be associated with the type of neighborhood they have just described. The range of comments may be broad and include participants'

impressions of the characteristics of a slum section. Participants may say that they would expect to see houses that need paint, older model cars in the driveways, and youngsters playing in the streets since there may be no playgrounds.

3. What would you expect are some of the social and economic characteristics of the people who live here?

Here, too, participants can make inferences based on their previous experiences. They should be able to generalize about the residents' education level, income level, racial background, and perhaps even make some statements about state of health, sizes of families, kinds of jobs, and recreational interests. In your discussion, you might even want to ask participants to estimate how much a house in this neighborhood would cost.

The class will probably associate low income, low level of education, low value of housing units, and a minority group population with the dilapidated neighborhood.

After the participants have studied Neighborhood Two for a few minutes, you should show them the following slides (numbered 7 to 11). Tell the participants that these slides will help them to check their generalizations about the neighborhood.

Slide 7, The Gentilly Woods Shopping Center on the north side of Chef Menteur Highway looking west from Louisa Street.

Slide 8, a white middle-class residential area on the southwest corner of Mirabeau and Louisa is shown in this view.

Slide 9, St. Ferdinand between Dreux and Marabo is the location for this slide depicting a white lower middle-class neighborhood. Buildings of the Baptist Theological Seminary are seen in the background.

Slide 10, Along the north side of Chef Menteur Highway just west of the intersection with Press Road, looking east, is the location of this view.

Slide 11, Some of the faculty housing of the Baptist Theological Seminary which is located on the east side of Seminary Drive is shown here.

Questions about Neighborhood Two, found on pages 12-13 of the Participant's Manual, are repeated below with suggested answers:

1. Using stereogram 6/7, and the Spanish Fort topographic map, examine Neighborhood Two in terms of the following criteria:

   a. size of buildings
   b. size of lots
   c. age of buildings
   d. amount of open space
   e. types of buildings
   f. street patterns

The houses in Neighborhood Two seem newer, and have larger lots. There is not as much open space as in

Neighborhood One, but the area has an interrupted traffic pattern with many curved streets. The area is mostly residential with a large shopping center and a college.

2. If you were to walk in this neighborhood, what would you expect to find?

Lawns would be mown, houses painted, a late model car in the driveway and perhaps a second compact car in the street. You could make many other observations descriptive of a middle-class neighborhood.

3. What would you expect would be some characteristics of the people who live there?

Participants will probably guess some characteristics such as a white population with a fair percentage of college graduates, middle-range incomes, more white-collared than blue-collared workers, and smaller families than in Neighborhood One.

After participants have studied these two neighborhoods, direct their attention to the chart entitled, "Chart to Estimate Characteristics of the Three Neighborhoods," found on page 14 of the Participant's Manual and also included here in this guide. Instructions for completing the chart are in the Participant's Manual. At this time, the participants should be directed to complete the "Estimated" columns for only Neighborhoods One and Two.

Chart to Estimate Characteristics of Three Neighborhoods

	Median Value Housing Units Owner Occupied		Median Family Income		Median School Years Completed		Per Cent Negro	
	Estimated	Actual	Estimated	Actual	Estimated	Actual	Estimated	Actual
Neighborhood 1								
Neighborhood 2								
Neighborhood 3								

Classes Within Census Categories

Median Value Housing Units, Owner Occupied	Over $25,000	$25,000–18,000	$17,999–14,000	$13,999–10,000	Less than $10,000
Median Family Income	Over $8,000	$7,999–6,500	$6,499–5,000	$4,999–3,000	Less than $3,000
Median School Years Completed	Over 12	12–9.1	9–8.1	Less than 8	
Percentage Negro	Over 90%	90–50%	49–1%	Less than 1%	

After the pairs of participants have made their estimates, you should tell them that Neighborhood One includes census tracts 16, 17B1, 17B2, and 17B3. Neighborhood Two is census tract 17A2.

The participants can now plot the actual figures on the chart alongside their estimates.

Neighborhood Three

This section of the exercise should take about 15 minutes. Refer the participants to the section about Neighborhood Three on page 15 of the Participant's Manual.

After the participants have been working on the questions for about 10 minutes, you could show them the following slides (numbered 12 to 16):

Slide 12, North of Madrid Street and looking west on Congress Street. The tee and sand trap of the Lake Pontchartrain Park Golf Course can be seen here.

Slide 13, an upper middle-class residential area on the east side of Pauling Street, south of Columbia, is depicted.

Slide 14, an upper middle-class residential area is again seen in this slide, located on the east side of Debore Street, just north of Mendez.

Slide 15, the southwest corner of Mendez and Piety is the location of the Coghill School.

Slide 16, The location is southwest from the north end of France Road. The elevation of France Road (about five feet above mean sea level) is about the same level as roof tops of houses.

Questions about Neighborhood Three, found on page 15 of the Participant's Manual, are repeated below with suggested answers:

1. Using stereograms 6/7 and 7/7, examine Neighborhood Three in terms of the following criteria:

a. size of buildings

b. size of lots

c. age of buildings

d. amount of open space

e. types of buildings

f. street patterns

This looks like a rather new suburban neighborhood built around a park. The houses are large and have fairly large lots. There is a large amount of open space including a golf course and developed recreation area. The buildings are all residential except for those of the university. There are very few through streets and many are curved, showing that this area may be a planned subdivision.

2. If you were to walk in this neighborhood what would you expect to find?

The responses should be similar to those for Neighborhood Two. Some students may think there is a little

more affluence in Neighborhood Three than in Neighborhood Two.

3. What would you expect to be some of the characteristics of the people who live here?

Again, the responses will probably be similar to those describing Neighborhood Two.

Ask the participants to complete the chart for Neighborhood Three (on page 14 of the Participant's Manual). After they have completed their estimates, tell them that Neighborhood Three is census tract 17A1. The participants now can plot the actual figures on their charts.

Summary Discussion

This discussion should be brief as the participants discuss in detail in Part II the teaching procedure illustrated in this exercise. You might choose to restrict the discussion to the influences that Southern University, Camp Leroy Johnson, the canal, and the airport would have on Neighborhood Three.

Participants could study the Spanish Fort topographic map for clues as to why they made inaccurate generalizations about Neighborhood Three. They might note that Southern University is predominantly Negro, that it is close to an army camp, an airport, and industrial docks, and that it is on filled land (formerly swamp).

If participants raise questions about the currency of the census data and the variability of income and housing values across the United States, you can tell them that the relative values given to each neighborhood are important and not the absolute figures.

PART II: CLARIFICATION OF THE DISCREPANT DATA TEACHING PROCEDURE

In this 30-minute activity, you use the participants' experience with the Three Neighborhoods exercise to help them understand the discrepant data teaching procedure. It is important that you continuously direct the participants' attention to the teaching technique and not to the substance of the previous exercise.

The materials needed for this part include the transparency master, "Discrepant Data Teaching Procedure" which is found on page 30 of this guide.

The following sequence of questions will help participants verbalize about their experiences with the Three Neighborhoods exercise. After some of the participants have recognized that they may have used inaccurate generalizations to guide their hypothesis making, you will show them how the discrepant data teaching technique works.

Guide questions and suggested answers follow:

1. Tell the participants to think carefully about the exercise itself. Then ask: which of the characteristics of the three neighborhoods in New Orleans did you infer correctly?

Participants will probably note that they made accurate estimates about income, housing value and education.

2. Which characteristics of the three neighborhoods did you miss?

Participants will probably be incorrect on their estimates of the percent of Negroes in Neighborhoods Two and Three and the value of housing in Neighborhoods Two and Three.

3. Some of you may have reached an erroneous conclusion about the population characteristics of Neighborhood Three because of an idea or generalization that guided your thinking. Try to state a generalization that would lead to an incorrect hypothesis about the population of Neighborhood Three.

Participants may state several different generalizations. They may be similar to the following examples: "Negroes are not in the majority in what appear to be high income areas" or "Certain groups of people are associated with certain kinds of neighborhoods."

4. Try to state a revised generalization that may be developed from having participated in this exercise.

An example of a revised generalization might be: "Some Negro and some white middle-class areas look very much alike." Or, "Although value of housing, income, and schooling seem to be associated with certain kinds of neighborhoods, ethnic groups are not."

Now, you could tell the participants that the process which they have been through is an example of the discrepant data teaching procedure. To clarify the discrepant data approach, you now should show and explain the transparency entitled, "Discrepant Data Teaching Procedure." Mask the transparency so that attention is focused on only the box containing the element being discussed.

Show the first box on the transparency entitled, "Identify Stereotype or Generalization to be Examined." Tell the participants that this is the first generalization they stated. One of the purposes of the discrepant data procedure is to help students examine ideas they have and to give them an opportunity to develop more precise or accurate generalizations.

Because a person has a certain stereotype or generalization in his mind, he would expect certain things to happen. For example, if a person believed that certain groups of people are associated with certain socio-economic areas, then he might think that lower socio-economic areas are mostly Negro. If this is the case, then he might also

DISCREPANT DATA PROCEDURE

e.g. Certain groups of people are found in certain socio-economic areas.

e.g. Participants found that they were accurate in their conclusions about the first two neighborhoods.

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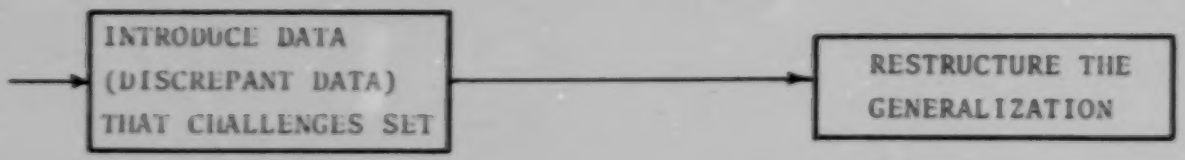

e.g. The census tract shows that an upper middle class area (Neighborhood 3) is over ninety per cent Negro.

e.g. Although value of housing, income, and schooling seem to be associated with certain kinds of neighborhoods, ethnic groups are not.

believe that almost no Negroes would be found in upper-middle class areas. This mind-set or expectation would tend to guide thinking as a participant worked through materials in attempting to solve a problem about population characteristics and socio-economic areas.

Now show the second box entitled, "Structure Problem that Reinforces Set." In the Three Neighborhoods exercise, the participants found that they were accurate in their predictions about the characteristics of the first two neighborhoods. Perhaps because the participants were successful in the task of hypothesizing about the socio-economic characteristics of these neighborhoods, the mind-set or expectation that almost no Negroes are found in upper-middle class areas was reinforced.

Show the third box entitled, "Introduce Data (Discrepant Data) that Challenges Set." The participants were asked to hypothesize about the socio-economic characteristics of a third neighborhood. Because of previous success in identifying characteristics, the participants probably expected to encounter no difficulty in defining the socio-economic characteristics of Neighborhood Three. However, when the census data is checked, some of the participants probably found that they had been incorrect in predicting the per cent of Negroes living in this area. The participants then attempted to find the reason for their inability to accurately hypothesize about the population characteristics of this neighborhood.

At this point, the participants have probably realized that whatever led them to successful hypotheses for Neighborhoods One and Two obviously does not apply to Neighborhood Three. The participants may have been accurate, or fairly close, in their hypotheses about value of housing, income and education, but may have been completely wrong in the estimation of the per cent Negro. Since they were wrong about the population characteristics, they were forced to restructure the generalization that "Certain groups of people are found in certain socio-economic areas."

Show the fourth box entitled, "Restructure the Generalization." Refer to the new generalization that the participants gave in their answer to the fourth question in Part II. (The participants were asked to try to state a revised generalization, such as, "Although value of housing, income, and schooling seem to be associated with certain kinds of neighborhoods, ethnic groups are not.") Ask the participants if this generalization would have been more helpful to them in attempting to solve the problem of hypothesizing about the population characteristics of Neighborhood Three.

Now that you have been through the discrepant data procedure, you might want to review the four steps again with the participants to ensure that they understand how the procedure works.

When you are sure the participants are familiar with the procedure, you could continue the discussion by asking this question:

How would this procedure be useful to you in your teaching?

Or you may wish to tell the participants the following uses of the discrepant data approach:

Introduce a topic. The discrepant data approach motivates students because they realize that they were wrong about certain things and that they have an opportunity to study the topic more fully to determine why they were wrong.

Value clarification. Talking about students' values is usually not very productive unless they are aware of some of their values. The discrepant data procedure may be used to help students understand that they have certain values and to help them know that they also hold biases or prejudices. The procedure could help students become aware of inaccurate generalizations about or biases toward other cultures, time periods, or groups of people.

Hypothesis making. The discrepant data teaching procedure may also be used to help make students aware of the tentativeness of hypotheses and the need to check all data before they arrive at conclusions that seem certain.

PART III: ANALYSIS OF AN EXERCISE ABOUT THE CULTURAL CHARACTERISTICS OF CITIES

This exercise is designed to give participants the opportunity to reinforce their understanding of the discrepant data teaching procedure by again becoming involved in an exercise that utilizes the procedure. When the exercise has been concluded, the participants will work in small groups analyzing the activity in order to identify the elements of the discrepant data teaching procedure.

Major Sections of the Exercise

There are four major sections to this one hour exercise:

1. "Traditional Architecture" involves the viewing and discussion of a set of slides of traditional architecture in cities in various parts of the world. Participants try to locate the scenes regionally in the light of cultural clues. (10 minutes)

2. "Downtown Sections of Cities" is developed around a set of slides of downtown sections of modern cities which participants also try to locate regionally. (10 minutes)

3. "Extracting the Teaching Procedure" involves the participants in an analysis of the lesson for the purposes of abstracting the discrepant data procedure. (20 minutes)

4. "Summary Discussion" has the participants talk about their success or failure in locating each of the sets of slides. (10 minutes)

Materials

Materials provided for this part of the kit include:

9 slides of traditional-style city buildings:

51. Bangkok, Thailand
52. Bruges, Belgium
53. Toledo, Spain
54. Korbo, Chad
55. York, England
56. Sanã, Yemen
57. St. Louis, United States
58. Kano, Nigeria
59. Yakutsk, U.S.S.R.

6 slides of downtown sections of modern cities:

60. Tokyo, Japan
61. Saõ Paulo, Brazil
62. Ulan Bator, Mongolia
63. Boston, United States
64. Kinshasa, The Congo
65. Suburb of London, England

Slides 51, 52, 55, 56, 58, 59, 61, 62, and 65 are copyrighted by the National Geographic Society which has made them available to the High School Geography Project.

All of the slides are used in the HSGP activity, "Culture Change: A Trend Toward Uniformity" from the Cultural Geography unit. The unit is published by The Macmillan Company.

Materials needed but not provided include slide projector and screen.

Traditional Architecture

To begin this section of the exercise you should direct the participants to page 17 of the Participant's Manual, a worksheet entitled, "Slides of Traditional-Style City Buildings Around the World." Inform the participants that you are going to show nine slides of various cities, numbered 51 to 59. The first time through the set of slides should be a rapid overview without discussion so that the participants will get a general impression of the slides. Tell the participants to look for clues that will help them to identify the part of the world, the culture region, or the country in which each photograph was taken.

The second time through, the set of slides should be shown at a slower pace. Call each slide by its number as it is shown in the sequence. Ask the participants to guess which country is being represented and to write the number of the slide in the "your guess" column by that country on their worksheet. Participants should

also write down some of the cultural clues they observed in the space provided on the worksheet.

When participants have completed their worksheet guess column, the slides should be projected a third time to give an opportunity for participants to discuss the major cultural clues that help to identify the locations of the slides. The discussion of each slide probably should be kept rather brief. The discussion should center around the cultural clues and participants' reasoning as to why they associate specific cultural clues with particular parts of the world. For example, give participants credit if their reasoning is good even though they might think the St. Louis slide shows a scene in England. Concentrating on the actual number of "right" answers is not necessary, but you will want to tell your class the name of each city. Information that may help in answering questions about the slides follows.

Slide 51, Thailand. City of Bangkok. All the buildings in this scene are religious buildings (Buddhist temples, pagodas), and distinctively oriental. Most of the people in the picture are native Thais, but are wearing Western-style clothes.

Slide 52, Belgium. The city of Bruges. Of special interest is the stairstep profile of the gables--fairly common in the past in parts of northwestern Europe.

Slide 53, Spain. The city of Toledo. Dominated

by the cathedral and the fort, the city has retained its basic characteristics since the Middle Ages.

Slide 54, Korbo, Chad. Style of buildings varies widely in Africa, though these building materials (woven rushes, thatch and mud), are widespread. Buildings made of thatch and mud must be rebuilt every few years. Thus, the buildings in this picture are all "new," yet the style is very old. Cities in Chad would have looked very similar to this 200 years ago.

Slide 55, England. Street scene in York. The buildings are either old buildings or new buildings constructed in old styles. Note the narrowness of the street and the style of architecture. Obviously the streets were built prior to the automobile. English identification can be made from the sign to the left "United Friendly Insurance Co. Ltd." or by the "Bobby" (policeman) farther up in the street.

Slide 56, Yemen. This is the capital city of Yemen--Sanā. The city is surrounded by mud brick walls containing seven wooden gates which are still closed nightly. (The walled city was once a very common feature of much of the world). One of the dominant features of any Muslim city is the mosque. Many of the flat-roofed buildings are two or three stories high which is fairly unusual for buildings constructed out of mud bricks. This is practical here because there is very little rain. There is no

evidence of modern influences. Presumably this city would have looked much the same 300 years ago.

Slide 57. United States. A residential street in St. Louis. The scene is in the older part of the city, not far from the central business district. The buildings shown on the far side of the street probably date from the late nineteenth century. In their height and sidewalk frontage, these buildings are more or less representative of much housing built in larger American cities a half century or more ago.

Slide 58, Nigeria. The city Kano in northern Nigeria. Buildings here, like those in Yemen, are made of mud with flat roofs. There are some decorations on the buildings, but buildings in Sanā, Yemen, are much more elaborately decorated. Note that many of the buildings in the background (with white roofs) are of a different architectural style, having sloping galvanized iron roofs. These are probably the homes of people from southern Nigeria where this house-type is common.

Slide 59, Soviet Union. A scene from the city of Yakutsk in Siberia. The picture illustrates both the old and the new. In the foreground are the older, traditional one-story wooden houses with their distinctive window shutters and framing. This part of the city is nearly all wood. The new buildings in the back are of stone or brick painted various pastel shades and appear to be four or five stories high.

The worksheet entitled, "Slides of Traditional-Style Buildings Around the World," on page 17 of the Participant's Manual, has space for participants to write a few generalizations that helped them to identify the slides. In a very brief discussion you might want to question them about these statements. Participants could be expected to raise such points as these:

Residential areas in older parts of cities generally tend to look different in distant countries, illustrating cultural differences.

It follows from the first statement that in the past, cities around the world must have looked very different from each other.

Houses of worship (churches, mosques, temples, shrines) still tend to look different in different culture regions. Religious buildings are often the best clues for matching a city with its culture region.

Downtown Sections of Cities

The second section of the exercise revolves around a set of slides numbered 60 to 65 showing scenes of downtown sections of cities. You should direct the participants to page 18 of the Participant's Manual which is the worksheet entitled "Slides of Downtown Sections of Cities Around the World." Tell the participants that they are again to look for clues that will help them identify the continent in which each picture was taken.

The first showing of the slides should be fairly rapid. Allow the participants no more than a few seconds per slide to note and jot down clues they may see.

The second projection of slides 60 to 65 should be more leisurely. You should refer to each slide by its number as it is shown, and participants should circle the name of the continent where they think the city might be located. Space is provided for them to write down any cultural clues that help to identify the continent. Now the slides should be shown a third time and as they are, ask the class for their guesses as to the continent being represented.

After the participants have made their guesses as to the location of each of the slides, you may want to make a tally on the blackboard for each of the slides showing the number of guesses for each continent. This tally might look like this:

	Africa	Asia	Europe	North America	South America
Slide 60	//	/	////	/////	/
Slide 61	/	//	///	////	///

This tally will be used to answer one of the questions in the summary discussion which follows.

Participants should point out cultural clues that help to locate the cities. Some of the scenes show nothing that is particularly distinctive, so do not belabor the search

for clues. You will want to give the name of each city shown on the slides.

Information that may help in answering participants' questions about the slide follows:

Slide 60, Tokyo, Japan (Asia). All you can say about this picture is that you are in a modern, industrial city. You could be almost anywhere--a large American or European or Australian city. Certainly the freeways and office buildings are not distinctive. Some of the residential areas (right-hand side of slide) would give clues if we had a closer view.

Slide 61, São Paulo, Brazil (South America). Again, there is nothing distinctively Brazilian in this view. All we know is that we are in the middle of a big, modern city that appears to be growing rapidly. It is warm--a man is without a coat. The church steeple suggests it is a Christian country. Only a few houses, at lower right, have "typical Mediterranean," gently sloping red-tile roofs. A few of the signs are in Portuguese.

Slide 62, Ulan Bator, Mongolia (Asia). The capital of Mongolia, Ulan Bator was described as "a huddle of one-story shacks" just twenty years ago. Now, from this distance, it looks like any modern city located in a semi-arid environment. The round buildings in the foreground are not gasoline tanks but "yurts" or "gers," the collapsible "tent" homes of nomads.

Slide 63, Boston, Massachusetts (North America). Those who know the local goegraphy of Boston might recognize the city (that is, the Charles River on the right, the bay in the foreground), but otherwise this is just another modern city. An occasional church suggests a Christian country.

Slide 64, Kinshasa (formerly Leopoldville), The Congo (Africa). There is nothing particularly African about this scene, unless you know that the river is the Congo River and the green in the distance is tropical rain forest. Though nearly all the inhabitants of the city today are Congolese, Kinshasa, like many African cities, was built by Eruopeans--in this case the Belgians. The modern multi-storied buildings could be found in almost any city of the world.

Slide 65, Suburb of London, England (Europe). Except for the church, identifying the area as Christian, the scene could be anywhere in the world where modern buildings are found.

The worksheet on page 18 of the Participant's Manual has space for the participants to write a few summary sentences about what they learned from this second set of slides. You may again want to briefly discuss these learnings with them. You might expect ideas such as the following:

It is difficult to distinguish the modern downtown sections of large cities around the world.

Modern apartment complexes tend to look much the same all over the world today.

Cities all over the world are becoming more and more alike at a faster and faster rate.

Extracting the Teaching Procedure

After the participants have finished looking at the second set of slides of downtown sections of cities and discussed the generalizations they drew from the slides, you will want to begin to direct their attention to the teaching procedure utilized in the exercise.

To facilitate the analysis of the exercise, divide the participants into groups of five or six. Appoint one member of each group to act as a discussion leader and inform that person that the questions to guide the discussion are found on pages 19-20 of the Participant's Manual. These questions are reprinted below.

1. Why was the first set of slides relatively easy to identify?

The participants will remember that each of the first set of slides contained some obvious cultural clues that made identification easy, i.e. Buddhist temples could be equated with the Orient, Mosques with the Near East, etc.

2. Why was the second set of slides more difficult?

The architecture in the downtown sections of cities tends to be more uniform with fewer obvious cultural clues.

3. When you were unable to find cultural clues in the second set of slides, how did you attempt to identify the location of the cities?

If participants will reflect on the reasoning that guided them in their attempt to associate the slides with various continents of the world, they will probably realize that they associated modern cities with Western cultures. When a person can discern nothing more about a slide except that it shows a modern city, he probably will associate the photograph with areas of the world that he thinks have modern cities, in this case, countries in the Western world.

4. What does the tally made on the chalkboard show about where we think modern cities are found?

Probably, far more participants will have associated the slides with the areas of predominantly Western culture, i.e. Europe and North America, than with other areas of the world.

5. Did this exercise affect you the same way that the Three Neighborhoods exercise did? Why?

Participants may respond that they were puzzled, frustrated, or angry about the exercise. They may have

been wary, expecting that it used the discrepant data procedure. Participants may say that they felt the same as they did when they worked cut the Three Neighborhoods exercise because the activities were similar.

6. If you reacted the same way to both exercises, your similar reaction may be because both exercises use the discrepant data teaching procedure. Try to analyze the Cities exercise to identify the elements of the discrepant data procedure. What was the stereotype or incorrect generalization that was selected.

Participants should suggest that the generalization is related to the culture of an area and the ability of the people to build modern cities. For example, the generalization could be, "Large modern cities are found mainly in Western Europe and Anglo-America."

7. How was the generalization or stereotype encouraged or reinforced in this exercise?

The participants were shown a set of slides that could be easily identified by cultural clues.

8. What discrepant data was introduced that challenged the generalization or stereotype?

A set of slides was used which could not be easily identified by cultural clues.

9. In what way could the generalization be restructured?

The generalization could be restated as, "Large modern cities are found in all parts of the world" or, "Cities

around the world are becoming more alike, especially in the downtown sections."

Summary Discussion

If, after observing the group discussion, you feel that your participants are having difficulty, you could review their reactions to and analysis of the Cities exercise. Question six, on page 46 of the Instructor's Guide, would be helpful to review. Especially important is to determine at this time if the participants know and understand the elements of the discrepant data teaching procedure.

PART IV: ANALYSIS OF THE VIDEO TAPE

This one-hour section gives the participants an opportunity to see high school students working with a discrepant data activity. You will need to arrange for your video tape equipment to be used during this part. The video tape for this kit is 22 minutes in length and is Part IV on the tape.

Before you show the video tape, you will want to review pages 20-25 in the Participant's Manual which provide an introduction, synopsis of the tape, and guide questions. Also, you will probably wish to preview the tape so that you can refer to specific happenings or show certain parts again during your class discussion.

To complete this exercise, you could help the participants summarize in a class discussion the advantages

and problems of working with media and the discrepant data procedure. The participants will use their guide questions on pages 24-25 of the Participant's Manual while viewing the video tape. These questions will have prepared them for the summary discussion that follows. To open the discussion you could ask:

1. How would you, as a teacher, need to behave in the classroom to facilitate learning when using materials such as topographic maps and air photos in conjunction with the discrepant data teaching procedure?

Responses should describe teacher behavior that encourages students to inquire on their own, to develop, and to test their own conclusions. In this kind of teaching situation, the teacher would help the students get organized, give whatever directions and explanations were needed, and then work with individuals or groups, rather than lecture to the whole class. In his work with groups, the teacher would probably encourage pupils to look for alternative answers, to examine all the data, to make tentative hypotheses, and to be open-minded. In his comments to students, the teacher would probably concentrate on the processes that students use to reach answers rather than on whether or not the answer is correct.

2. What types of reactions do you think students would have to the discrepant teaching procedure when it is combined with the use of varied media? Why?

From having watched the video tape and from their own experience, the participants might say that the students could become interested in doing the exercise, involved in the exercise and enthusiastic about learning in this fashion. Participants could suggest that students may learn more effectively because they are learning on their own. Students may also become more critical or questioning of learning experiences. Students could react in a negative way if this teaching technique were used too often as its success depends on surprise.

3. What types of problems could you envision arising from this teaching technique?

Participants could respond that much pre-planning would be required to develop an effective discrepant data teaching sequence. They may also feel that the needed materials would be difficult to obtain. The organization, distribution, and general supervision of materials may take more time and cause more inconvenience than the learning outcomes could justify. Further, some participants may feel that the time spent in class with this type of exercise may not be justified. For certain school situations, the noise level and movement of students may be considered undersirable.

4. With these advantages and problems in mind, can you think of ways that you could use the discrepant data teaching procedure in your own teaching?

Participants may suggest situations that are analagous to the exercises that they have experienced in this kit. For instance, a participant could give an example such as the following:

The meeting of two men begins their reminiscing about war experiences. One of the men describes his life in a World War II prison camp. He talks about the small allotment of rice at meals, the brutal treatment from guards, the inferior housing and clothing. When the conversation is completed, the man talking is identified as a Japanese who has described conditions in an Allied prison camp.

The students, when asked to identify the historical situation, probably would state that the man talking had been a prisoner of the Japanese forces during World War II. The discrepant data in the example can be identified as the fact that the man is a Japanese who had been a prisoner of war of the Allied forces. The anecdote could be used in teaching to introduce a study of World War II, the general topic of war, or an examination of students' attitudes about war.

Participants may suggest examples based on other historical or social science possibilities which lead into the next section of the kit,"Application."

PART V: APPLICATION

Two applications are suggested in the Participant's Manual for use during the final hour of this kit. The applications give the participants an opportunity to prepare short activities using the discrepant data teaching procedure.

You should read through the applications and choose the problem most appropriate for your class situation and time requirements. Application Two is based on historical data while Application One uses mainly geographic data. Also, Application Two should be assigned well in advance since out of class time is required for participants to prepare the assignment. Application One is designed for use in class with no out of class preparation time.

Details about the applications start on page 25 of the Participant's Manual. Summaries of the applications along with teaching guidelines are given below.

Application One

This problem can be completed in class without outside preparation by the participants. The participants are given the descriptions of twelve slides. Each of the slides shows a scene in either North America or Japan. As the participants read the slide descriptions beginning

on page 27 of the Participant's Manual, you should show the slides to the class. Give the participants an opportunity to become familiar with the slides. Then divide the class into groups of four or five and assign the problem of planning a short lesson, as detailed on pages 26-27 of the Participant's Manual. About 30 minutes should be sufficient for the class to work on the activity.

At the end of the preparation time, you should let each group briefly present their ideas for an activity, using the slides and the discrepant data procedure. While there are many varieties of classroom activities that could be devised from these slides, participants should develop an exercise that would deal with student stereotypes about Japan. For example, participants may devise an activity about the degree of modernization of Japan.

Some of the slides are obviously related to Japan or North America, due to the obvious cultural clues in the pictures. Other slides are hard to place in Japan, especially those that show industrial complexes and modern farming operations. Most students would probably place these scenes in North America. By confronting students with these new images of Japan, the basic misconception about the "backwardness" of Japan could be examined in further study of the country.

You could lead a class discussion on the activities

by asking questions such as the following:

1. How did you use the discrepant data procedure and the slides to build an activity?

2. What stereotypes or incorrect generalizations are examined in the activity?

3. How would the planned activity involve the students?

4. What are the basic objectives of the activity?

5. What type of inquiry situation or study could such an activity introduce?

6. What other types of media could be used to construct a similar activity?

7. How did each of the activities presented vary in the utilization of the data and the discrepant data procedure?

Application Two

This application should be assigned well in advance of the class in which the application will be presented.

The participants should be given the excerpts, dealing with the topics of war and civil disorder, which begin on page 31 of the Participant's Manual. After examining the excerpts, participants will probably say the excerpts are descriptions of the Vietnam War and the war protest riots that have recently occurred in Washington and other major cities. But in fact, as the participants are told, the selections are based on one view

of the Civil War and a description of the Bonus March on Washington, D.C., in the 1930's.

With these excerpts as a starting point, the participants are instructed to devise a short teaching activity (which could be taught in about five to seven minutes) that utilizes the quotations and the discrepant data teaching procedure. The preparation of these short activities could be done by pairs of participants in small groups or by individuals. On page 34 of the Participant's Manual are specific questions for the participants to consider in developing the activity.

As an example of an activity that could be developed using the quotations, students could be presented with the untitled quotations and asked to identify the situations which are described. Most of the students will probably conclude that the quotations describe present-day war protests and civil disorders. The discrepancy in the student conclusion could then be noted when the students are given the correct identification for each of the quotations. A discussion might follow which would examine the reasons why students were willing to assume that the quotations were describing present-day conditions and why they did not consider that other time periods were being described. You might be able to use this example as a guide for comparison with the activities planned by your participants.

To enable the participants who have planned lessons to share them with the class, you could arrange for copies of the lessons to be reproduced. So that each group can teach its lesson, you might decide to divide the class into two or three sections. Members of each section could teach to each other. After the lessons have been taught, you could lead a discussion by asking the following questions:

1. What stereotype or incorrect generalization was examined in each of the activities?

2. In what way did each of the activities combine the quotations and the use of the discrepant data procedure?

3. How did each of the activities vary in their use of the quotation and the discrepant data procedure?

4. How did each of the activities involve students?

5. If these discrepant data teaching sequences were used to introduce a unit of study, what type of unit could it be?

6. Can you think of some other situations in which the discrepant data procedure could be used?

USING MEDIA TO STIMULATE INQUIRY

Participant's Manual

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USING MEDIA TO STIMULATE INQUIRY

Participant's Manual

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General Information

With the publication by The Macmillan Company of the High School Geography Project's year-long course, Geography in an Urban Age, the Project has turned its attention to the development of teacher education materials. The kits of HSGP teacher education materials reflect the Project's emphasis on teaching strategies that encourage student inquiry and involvement. Like many of the HSGP units for high school students, the teaching procedures demonstrated in the teacher education kits are usable in various kinds of social studies courses in addition to geography.

Three HSGP teacher education kits designed for use by both college students in social studies methods classes and by in-service teachers in workshops have been prepared. Each kit is five hours in length and can be used independently or together with the other kits. Some of the exercises in each of the kits have been adapted from the HSGP course. While these exercises were originally intended for use with high school students, they also have been tried out successfully with numerous adult groups. All materials needed, such as aerial photos, maps and diagrams, are provided in the kits. Video tapes are available on loan. The three HSGP teacher education kits developed for tryout in 1970 are:

Using Media to Stimulate Inquiry

Using Simulation to Involve Students

Using Evaluation to Improve Instruction

Each kit is based on the assumption that the best way to learn the advantages and disadvantages of any teaching strategy is to experience it. Consequently, the kits provide many opportunities for using a variety of educational media, in role-playing simulations and in evaluation exercises. Such experiences then are analyzed in terms of their educational objectives and their usefulness in social studies classrooms. At the conclusion of each kit, participants have an opportunity to apply what they have learned.

The HSGP teacher education materials have been developed with definite participant objectives in mind. Participants completing the HSGP teacher education materials should be better able to and more likely to:

1. Use open-ended strategies, group work, and a variety of educational media in their teaching
2. Analyze inquiry and simulation exercises in terms of certain anticipated attributes
3. Devise inquiry and simulation activities
4. Evaluate cognitive and affective objectives
5. Discuss the advantages and disadvantages of the open-ended strategies used in the HSGP teacher education materials

Introduction to Using Media to Stimulate Inquiry

A major emphasis in many of the new social studies courses is to give students opportunities to examine data from a variety of sources. In this kit you will be using slides, aerial photographs, topographic maps and census data as a basis for the making and checking of hypotheses. You will be working with some exercises that have been adapted from High School Geography Project classroom activities. These exercises will provide a basis for the analysis of the teaching procedures and materials that are used in them.

This kit has been divided into five parts. A brief description of what you will be doing in each part follows.

Part I, An Exercise About Three Neighborhoods in New Orleans. Working in pairs, you have an opportunity to use topographic maps and stereograms as sources of information to hypothesize about three contrasting neighborhoods. You will use census data to check your hypotheses.

Part II, Clarification of the Discrepant Data Teaching Procedure. You discuss the organization of the exercise. Your instructor will illustrate the specific aspects of the teaching procedure. Since no special materials or information are necessary for you to do this part, it has been omitted from the Participant's Manual.

Part III, Analysis of an Exercise on the Cultural Characteristics of Cities. You will participate in another instructional activity and then in groups analyze the exercise to extract the teaching procedure.

Part IV, Analysis of the Video Tape. You view a short video tape of a high school class working on the Three Neighborhoods exercise. The video tape provides a basis for discussion of the advantages and problems of the demonstrated teaching procedure.

Part V, Application. You are given an opportunity to develop classroom activities having the teaching procedure demonstrated in this kit.

PART I: AN EXERCISE ABOUT THREE NEIGHBORHOODS IN NEW ORLEANS

In this exercise you will be asked to make some hypotheses about the socio-economic characteristics of three adjacent neighborhoods in New Orleans. You will have topographic maps, stereograms, and slides showing each neighborhood. From these you will be able to hypothesize about the level of income, educational level, value of homes, and ethnic composition of the neighborhoods. To guide your study, specific questions are provided in this manual.

Materials

The materials that you will use in this exercise are contained in the Participant Package. In the package are two topographic maps (Spanish Fort, New Orleans East), three sterograms (5/7, 6/7, 7/7), a stereoviewer, two sources dealing with topographic maps: a pamphlet, Topographic Maps and a sheet, "Topographic Map Symbols," and a sheet entitled "Census Tract Data." Since you may not be familiar with or have had much experience with some of these media, brief descriptions of them follow.

Topographic maps are different from the usual maps you encounter because they show a small area in great detail. The two maps in your package are at a scale of 1:24,000 which means that one inch on the map equals 2,000 feet on the ground. About two and one-half inches on the map would equal one mile on the ground. This type of map shows many of the man-made and natural features on the part of the earth represented. Because topographic maps are very detailed, you will find that much can be learned about an area through careful study. The pamphlet, Topographic Maps, and the separate sheet, "Topographic Map Symbols," will provide you with background information for using the two maps. You will probably find pages 12-17 of Topographic Maps most useful.

If you look at the stereograms which you have in your package, you will note that they are made from vertical aerial photographs taken by cameras mounted on airplanes. The photographs were taken every few seconds as the airplane flew in a straight line, so each photograph overlaps with two others. Thus, the second photo in the series shows some of the same area as the first photo, and the third shows some of the same area as the second and so on. Stereograms are made by printing the photographs so that the area of overlap appears twice. The objects in the first photograph are printed about 2 3/8 inches away from the same objects in the second photograph. This distance is about the distance between a person's eyes. If a stereoviewer is used properly, the images fuse and appear in three dimensions to the viewer.

There is some distortion in the height of the objects. This is because the exposures were made at one and one-half mile intervals, and when the stereograms are printed, this distance is converted to the 2 3/8 inches that separates the eyes. Consequently, all features, such as buildings or hills, appear to be taller than they actually are; this is called vertical exaggeration.

The three stereograms in your package were made from one photographic flight from south to north. You will

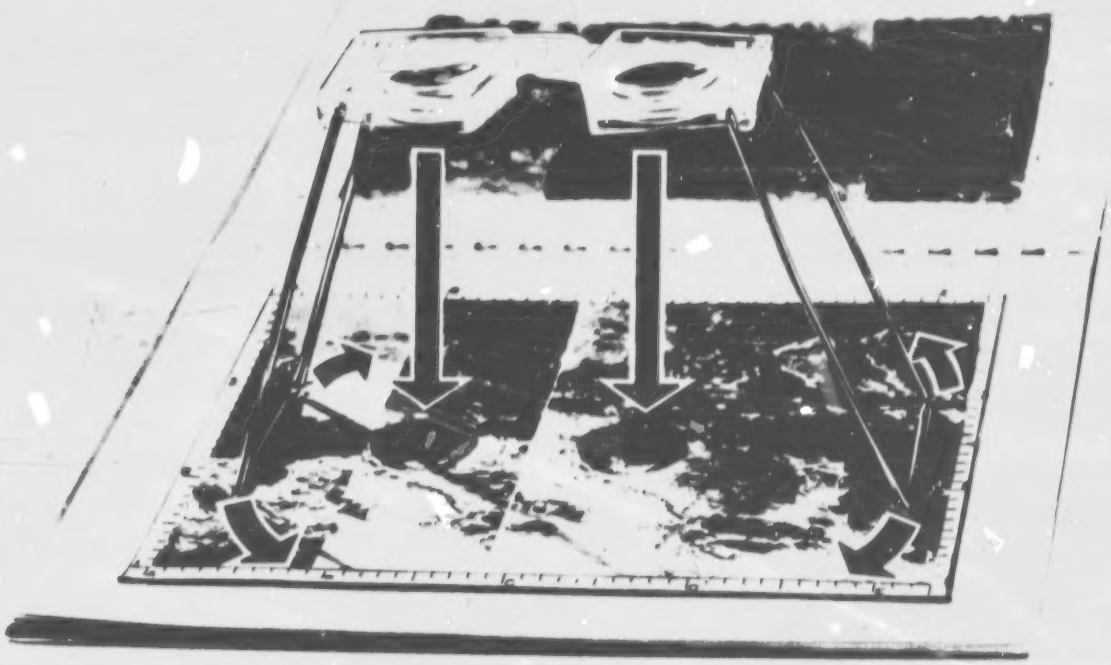
note that each of the stereograms in the series has a number in one corner and the second number is always seven. The first digit shows the place of the stereogram in the series of three--5/7, 6/7, and so on. The stereogram 5/7 is the most southern of the series and 7/7 is most northern. Your instructor probably will mount a set of the stereograms to show you how the photographs would look if they were a continuous picture. You will notice that when you have a stereogram positioned properly for viewing with the identification number in the upper right-hand corner, you are looking west. North is to your right. This could be somewhat confusing as north is usually found at the top of a map.

The letters and numbers on the sides of the stereograms, of no importance to you in this exercise, are, however, useful as a grid system to locate particular points. For example, to find the race track on the photographs, you would look on stereogram 5/7 in square A-13.

To see the stereogram in three dimensions, you will need to use the stereoscope included in your package. The stereoscope may be opened by spreading the top wire leg and sliding it over the plastic stops. The bottom leg folds down, as is shown in the illustration. The adjustment dial, which shows the numbers 60, 65, and 70

indicating interpupillary distance in millimeters, should be up.

The stereoscope should be placed over a stereogram so that the center of each of the lenses is above a common point as shown in the following illustration.



From "Aerial Stereo Photographs" by H. R. Wanless, published by T. N. Hubbard Scientific Co.

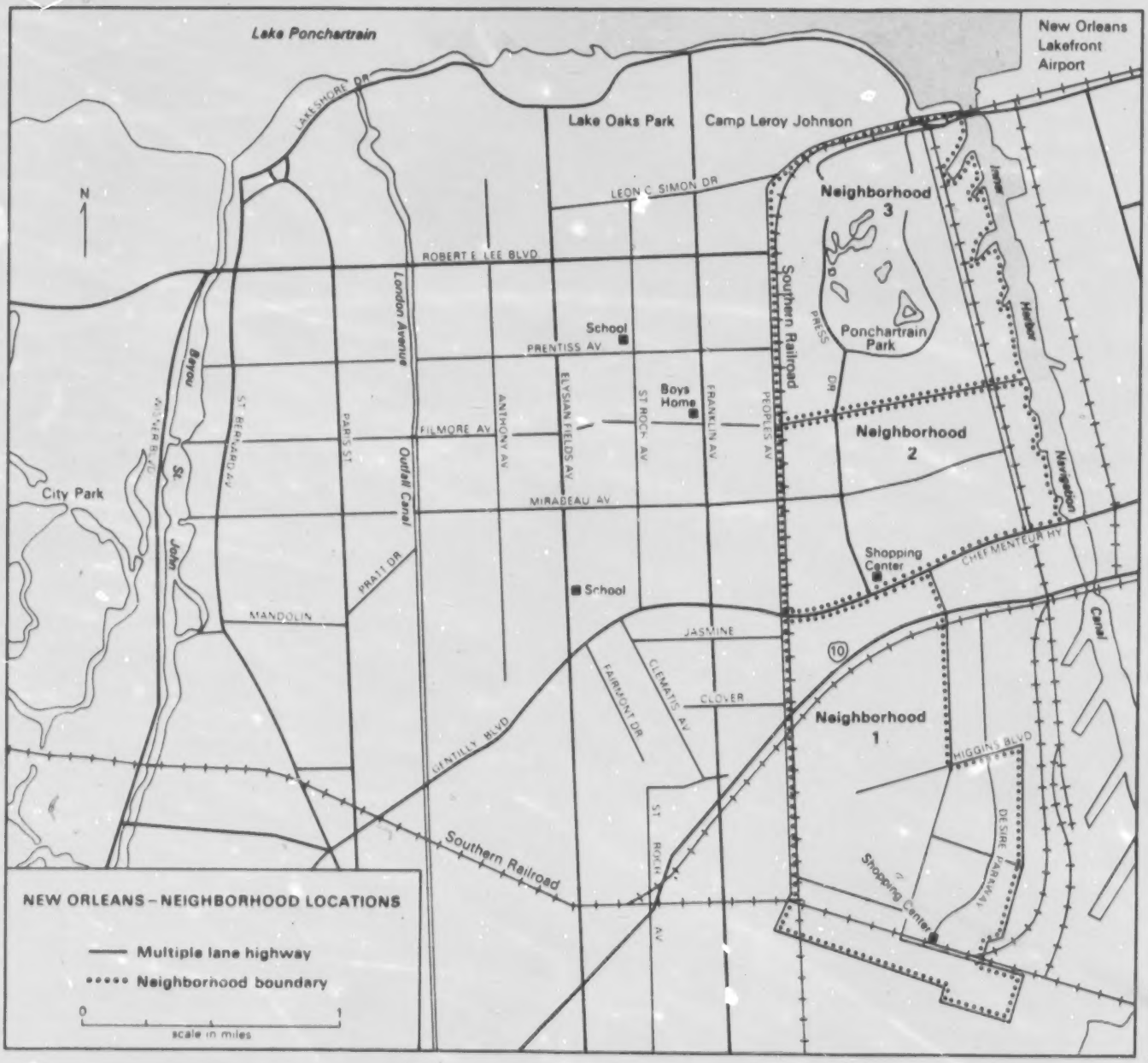
You may have to rotate or move the stereoscope slightly before the two images merge and the picture "pops up" in three dimensions.

Locating the Study Area

The three neighborhoods which you will be studying are indicated on the location map found on page 10 of the Participant's Manual. The approximate boundaries of the whole area are the Inner Harbor Navigation Canal on the east and the Southern Railroad on the north, west, and south. The boundary between Neighborhood One and Neighborhood Two is the Chef Menteur Highway. The boundary between Neighborhood Two and Neighborhood Three is Filmore Avenue.

You will find Neighborhood One in the northeast corner of the New Orleans East topographic map. After you find the Inner Harbor Navigation Canal, the neighborhoods will be easy to locate. Neighborhood Two and Neighborhood Three are located on the east side of the Spanish Fort topographic map.

Neighborhood One appears on the eastern sides of stereograms 5/7 and 6/7 which means that when the stereograms are set for viewing with north at the right, the neighborhood is at the bottom of the photograph. Neighborhood Two is found on stereogram 6/7 while Neighborhood


Lake Ponchartrain
New Orleans Lakefront Airport
LAKESHORE DR
Lake Oaks Park
Camp Leroy Johnson
LEON C SIMON DR
Neighborhood 3
ROBERT E LEE BLVD
London Avenue
Bayou
School
PRENTISS AV
Southern Railroad
PRESS DR
Ponchartrain Park
Harbor
Industrial Canal
Boys Home
FILMORE AV
ELYSIAN FIELDS AV
ANTHONY AV
ST ROCH AV
FRANKLIN AV
PEOPLES AV
Neighborhood 2
Outfall Canal
PARIS ST
MIRABEAU AV
City Park
St. John
Shopping Center
CHEF MENTEUR HY
School
PRATT DR
MANDOLIN
JASMINE
CLOVER
FAIRMONT DR
CLEMATIS AV
GENTILLY BLVD
Neighborhood 1
HIGGINS BLVD
DE SIRE PARKWAY
Southern Railroad
Shopping Center
NEW ORLEANS – NEIGHBORHOOD LOCATIONS
Multiple lane highway
Neighborhood boundary
0
1
scale in miles

Three appears on both stereograms 6/7 and 7/7. The topographic map and the stereograms which your instructor has displayed should help you to locate the study area if you are having any problems.

Analysis of Neighborhood One and Two

In this part of the exercise, you will examine Neighborhood One and then Neighborhood Two.

Neighborhood One appears on stereograms 5/7 and 6/7. Two kinds of housing predominate. The pattern in the eastern section shows multi-unit dwellings with open areas in between. The central section shows single-family houses clustered on long blocks. There are some other streets with single-family houses branching to the north. You will study the part of the neighborhood that is occupied by the single-family houses.

Neighborhood One

To help you in later discussions, you should record your answers to the following questions on a separate sheet of paper.

1. Using the stereograms 5/7, 6/7 and the New Orleans East topographic map, examine Neighborhood One to determine the following:

a. size of buildings

b. size of lots

c. age of buildings

d. amount of open space

e. types of buildings

f. street patterns.

2. If you were to walk through this neighborhood, what would you expect to find?

3. What would you expect would be some characteristics of the people who live there?

You will be shown slides of Neighborhood One. If these slides lead you to change any of your answers to the above questions, please note those changes on your answer sheet.

Neighborhood Two

1. Using stereogram 6/7 and the Spanish Fort topographic map, examine Neighborhood Two in terms of the following criteria:

a. size of buildings

b. size of lots

c. age of buildings

d. amount of open space

e. types of buildings

f. street patterns

2. If you were to walk through this neighborhood, what would you expect to find?

3. What would you expect to be some characteristics of the people who live there?

You will be shown slides of Neighborhood Two. If these slides lead you to change any of your answers to the above questions, note those changes on your answer sheet.

Now that you have studied Neighborhoods One and Two and have some knowledge of them, you have an opportunity to make some hypotheses about their socio-economic characteristics.

The chart which follows on page 14 has spaces for four estimates. These are value of housing, family income, school years completed, and per cent Negro. To help you make your estimates, the table entitled, "Classes within Census Categories," is provided on page 14. You will note that there are five classes for value of housing and median family income and four classes for median school years completed and per cent Negro. Using the knowledge which you now have about Neighborhood One and Two and the data intervals provided, make an estimate for each of the four characteristics.

When you have made your hypotheses, your instructor will indicate which census tracts are in Neighborhood

Chart to Estimate Characteristics of Three Neighborhoods

	Median Value Housing Units Owner Occupied		Median Family Income		Median School Years Completed		Per Cent Negro	
	Estimated	Actual	Estimated	Actual	Estimated	Actual	Estimated	Actual
Neighborhood 1								
Neighborhood 2								
Neighborhood 3								

Classes Within Census Categories

Median Value Housing Units, Owner Occupied	Over $25,000	$25,000–18,000	$17,999–14,000	$13,999–10,000	Less than $10,000
Median Family Income	Over $8,000	$7,999–6,500	$6,499–5,000	$4,999–3,000	Less than $3,000
Median School Years Completed	Over 12	12–9.1	9–8.1	Less than 8	
Percentage Negro	Over 90%	90–50%	49–1%	Less than 1%	

One and Two. You may then check your estimates against the census data.

Neighborhood Three

You should examine the third neighborhood in the same way that you studied the first two neighborhoods. Use a separate sheet of paper to record your answers.

1. Using stereograms 6/7 and 7/7, examine Neighborhood Three in terms of the following criteria:

a. size of buildings

b. size of lots

c. age of buildings

d. amount of open space

e. types of buildings

f. street patterns

2. If you were to walk through this neighborhood, what would you expect to find?

3. What would you expect to be some characteristics of the people who live there?

You will be shown slides of Neighborhood Three. If these lead you to change any of your answers to the above questions, note those changes on your answer sheet.

Now complete the chart for Neighborhood Three. When you are finished, your instructor will tell you which census tract Neighborhood Three is in so that you can check your estimates.

PART II: CLARIFICATION OF THE DISCREPANT DATA TEACHING PROCEDURE

During this part of the kit, your instructor will lead a class discussion of the teaching procedure illustrated in the Three Neighborhoods exercise. As you talk about the discussion questions, you should consider mainly the teaching procedure rather than the subject matter of the exercise.

For your reference, the basic elements of the discrepant data teaching procedure are listed below:

- Identify Stereotype or Generalization to be Examined
- Structure Problem that Reinforces Set
- Introduce Data (Discrepant Data) that Challenges Set
- Restructure the Generalization

PART III: ANALYSIS OF AN EXERCISE ABOUT THE CULTURAL CHARACTERISTICS OF CITIES

In this part of the kit you attempt to identify photographs of cities in various parts of the world. After you have studied two sets of slides and discussed your answers, you will work in small groups to analyze the exercise. Your instructor also will give you some specific instructions concerning this exercise.

Slides of Traditional-Style City Buildings around the World

Matching: Slides and Countries.

You will be shown nine slides of cities from around the world. All of them show traditional building styles. Some of the slides show old buildings. Some show recent buildings constructed in the old style.

You will see these pictures twice. The first time simply look at the picture without trying to write the matching number below. The second time you see them, try to put the number of each slide in the space provided behind the correct country's name.

Countries	*Cultural Clues*	*Your Guess*	*Correct Answer*	*Actual City*
Belgium				
Chad (Western Africa)				
England				
Nigeria				
Spain				
Soviet Union				
Thailand				
United States				
Yemen (Southwest Asia)				

Generalizations that helped you identify the slides.

Slides of Downtown Sections of Cities around the World

Multiple-choice:

You will be shown seven slides of cities from around the world. Look for clues to identify the continent in which each city is located. The second time that you see the slides, circle the name of the continent that you think is the correct one for each slide. (Do not be discouraged if you find this difficult.)

	Cultural Clues	*Correct Answer*	*Actual City*
Slide 60—Africa Asia Europe North America South America			
Slide 61—Africa Asia Europe North America South America			
Slide 62—Africa Asia Europe North America South America			
Slide 63—Africa Asia Europe North America South America			
Slide 64—Africa Asia Europe North America South America			
Slide 65—Africa Asia Europe North America South America			
Slide 66—Africa Asia Europe North America South America			

Generalizations learned from these slides:

Extracting the Teaching Procedure

To do this part of the exercise, you will be divided into groups. One of you will act as a discussion leader as you consider the questions that follow. You may wish to record your ideas on a separate sheet of paper.

1. Why was the first set of slides relatively easy to identify?
2. Why was the second set of slides more difficult?
3. When you were unable to find cultural clues in the second set of slides, how did you attempt to identify the location of the cities?
4. What does the tally made on the chalk board show about where we think modern cities are found?
5. Did this exercise affect you the same way that the Three Neighborhoods exercise did? Why?
6. If you reacted the same way to both exercises, your similar reaction may be because both exercises use the discrepant data teaching procedure. Try to analyze the Cities exercise to identify the elements of the discrepant data procedure. What was the stereotype or incorrect generalization that was selected?
7. How was the generalization or stereotype encouraged or reinforced in this exercise?

8. What discrepant data was introduced that challenged the generalization or stereotype?

9. In what way could the generalization be restructured?

PART IV: ANALYSIS OF THE VIDEO TAPE

In a 22 minute video tape you will see a ninth grade civics class working on the Three Neighborhoods exercise from the High School Geography Project's Geography in an Urban Age course. Prior to the beginning of the video tape, the class had worked for four periods on several activities in the Geography of Cities unit. This is the first time this teacher and class have used materials from the Geography in an Urban Age course. The class met during the last period of the day and is a heterogenous group exhibiting a wide range of ability.

What you will see in the 22 minute tape, selected from six hours of classroom time, has been chosen to represent some of the advantages and problems in using media and the discrepant data teaching procedure. The video tape is in six scenes which correspond with the instructional sequence of the Three Neighborhoods exercise. A description of the video tape follows.

Scene I - Introduction to Various Media. Mr. Cognetta, the teacher, begins by telling the class that they are

about to study land uses of a city, New Orleans, and introduces the topographic map as one tool the class will use. A discussion of the kinds of information found on a topographic map follows. Emphasis is placed on what the various colors on the map might represent.

Next, Mr. Cognetta introduces the class to the stereogram. He explains that the stereogram has very small features because the picture was taken from an airplane at an elevation of 1200 feet. He points out that the stereogram is divided into three overlapping sections. To illustrate the reason for the stereogram's construction, the teacher introduces the stereoviewer. He shows the class the correct way to place the stereoviewer on the stereogram and explains that the students should see in three dimensions when looking through the stereoviewer.

Scene II - Group Work with Stereograms. This scene shows group interaction as the students work in pairs to familiarize themselves with the stereoviewers and stereograms. First, Mr. Cognetta helps two girls as they try to adjust the stereoviewer for viewing. Then the teacher moves to help another pair of girls who are having difficulty with the stereoviewer. Next, two boys are shown discussing various land-use features on the stereogram. Finally, the scene shifts to two girls concentrating on reading a stereogram.

Scene III - Introduction to Three Neighborhoods.
Mr. Cognetta begins by telling the class that they will be studying three neighborhoods in New Orleans, using their stereoviewer and stereograms. By studying the land uses of the neighborhoods, the class will make some hypotheses about, 1) whether the neighborhood is old or new and, 2) the kinds of people living there. Mr. Cognetta points out the locations of the neighborhoods on a mosaic of aerial photographs and labels them as neighborhoods one, two, and three.

Mr. Cognetta leads the class in a discussion of some of the kinds of clues that may help them in making hypotheses about the neighborhoods. Emphasis is placed on the probable color of roofs on old houses. The class then discusses how they might determine the clues that indicate a crowded neighborhood. Mr. Cognetta advises the class to keep these clues in mind as they look at the first neighborhood.

Scene IV - Group Work with Neighborhoods One and Two.
This scene opens as Mr. Cognetta tells the class where to look in the Student Manual to determine the boundaries of the neighborhoods.

Next, one of the girls asks about a feature on the stereogram that she cannot identify. After Mr. Cognetta asks what other sources of data she has to help her, the

student gets out her topographic map.

Then the teacher works with two boys as they describe a neighborhood. They discuss the boundaries of the neighborhood and the effects of the particular boundaries on the neighborhood.

To help the class further in their analysis, Mr. Cognetta then shows a slide of Neighborhood One.

Scene V - Checking Hypotheses of First Two Neighborhoods. Using an overhead projector, the teacher shows the class the chart for the neighborhoods. The class begins to hypothesize about the people who might live in the two neighborhoods. The class makes estimates about income, per cent Negro, and value of housing.

Next, Mr. Cognetta passes out the census tract data for these neighborhoods. Individually, the students check this information against their hypotheses and find they were right, or very nearly right, in their hypotheses about the characteristics of the people in these neighborhoods.

Scene VI - Neighborhood Three. Mr. Cognetta begins by reminding the class of their success in making hypotheses about the first two neighborhoods. In this scene, the class works with Neighborhood Three. With the aid of the overhead projector and transparency, the class makes

hypotheses about the socio-economic character of Neighborhood Three. Individually, the students check their hypotheses with the census tract data. The class is surprised to find they were mistaken in some of their estimates.

Mr. Cognetta leads the class in a discussion of why some of their hypotheses were inaccurate. One girl states one of the class' first generalizations. When Mr. Cognetta asks how their hypotheses could have been more accurate, the class states they needed even more information. The discussion shifts to why the new, wealthy neighborhood is 90% Negro. Individually, the students examine their topographic maps and locate Southern University. They hypothesize that it is a black institution of higher learning, thus the high percentage of Negroes living in the neighborhood.

Guide Questions

As you view this tape, you may wish to note the following questions in order to discuss later what happened. You may want to record your answers on a separate sheet of paper.

Student reaction to the materials and teaching procedure.

1. In what ways does the class react to using stereoscopes, stereograms, and topographic maps?

2. How does the class react when they realize their predictions about Neighborhood Three were not correct? What reasons do they give for their inaccurate statements about the neighborhood?

Teacher role when using the materials and teaching procedure.

1. How well do you think the teacher explains the use of stereograms? Why?
2. How does the teacher work with the pairs of students?
3. How does the teacher help the entire class make hypotheses about each of the neighborhoods?

Classroom organization.

1. Does the use of stereograms and topographic maps appear to cause any organizational problems? Could the use of these materials cause organizational problems? In what ways?
2. In what ways was the overhead projector useful?

PART V: APPLICATION

The applications presented in this part will give you an opportunity to utilize the discrepant data teaching procedure which has been examined and discussed in previous parts of this kit. In each of the problems

presented below, you will be given basic data that can be found in most textbooks or in other available sources. Using the given information and the discrepant data teaching procedure, you will be asked to prepare teaching activities appropriate for high school students. Each application will contain guide questions and instructions for you to consider as you prepare the activities. Application One can be completed in a 50 minute period, but Application Two will require out of class preparation.

Application One

Twelve slides, showing scenes in either North America or Japan, will be shown to you. As you view the slides, you should read the descriptions of them, beginning on page 27 of this Participant's Manual. Time will be given for you to study each of the slides thoroughly so that you can become familiar with them.

After you have seen the slides, you will work in groups of four or five to plan a short lesson appropriate for high school students. The activity should utilize the slides and the discrepant data teaching procedure. As your group plans the activity, consider the following guide questions:

1. What are some of the student stereotypes or

misconceptions about Japan that could be examined in an activity using these slides?

2. What are the discrepant elements in these slides?

3. What specific questions and procedures would you use in your exercise to build a discrepant data teaching activity?

4. What type of inquiry study about Japan could be introduced by an activity using these slides and the discrepant data procedure?

Be prepared to share with the class your outline for the discrepant data activity about Japan. You should be able to identify the following elements of the discrepant data procedure:

1. The stereotype or incorrect generalization to be examined.

2. The procedure for reinforcing the stereotype or incorrect idea.

3. The way in which the discrepant data is introduced.

4. The expected revised generalization.

Slide Descriptions

Slide 70. A Buddhist temple in Japan during a summer festival. This slide emphasizes the difference in

the dominant religions of Japan and North America. Although a Christian church could be found in Japan and a Buddhist temple could be found in North America, both would be uncommon. For the most part, the religious aspects of life in both countries retain their traditional heritage and are little affected by cross-cultural currents.

Slide 71. Rice field, Kochi Prefecture, Japan. It would be impossible to find a scene like this in North America. A newly-planted and irrigated rice field is in the foreground. Workers in the background are picking rice plants from a seedbed prior to transplanting them into an irrigated field. The number of workers in this one small field illustrates the intensive application of labor typical of much Japanese agriculture.

Slide 72. An aerial view of a farming area and a small market town in British Columbia, Canada. The size of the fields appears larger than what might be expected in Japanese agricultural areas, thus the scene is more North American than Japanese.

Slide 73. An agricultural area in central Hokkaido. This scene would probably be placed in North America. The lack of laborers and the evidence of farm machinery make it a scene found more frequently in North America than Japan. However, parts of Hokkaido can be considered

a "frontier" area to Japanese agriculture.

Slide 74. An agricultural area in Montana. A complicated piece of farm machinery is being used to harvest sugar beets. The tendency would be to place this scene in the United States or Canada where fewer farm laborers and much more farm machinery are used.

Slide 75. Imperial Palace Plaza and downtown Tokyo. The modern skyline and rush hour traffic depicted in this scene could exist in either North America or Japan. However, close scrutiny will bring out the fact that people are driving their automobiles on the left side of the street.

Slide 76. Freeway in Tokyo. Although this scene is typical of the United States, one should note that the directions on the green and white highway signs are in Japanese characters. The modern urban scene in the background, complete with skyscraper, could be any modern area. Yet, closer observation will show several buildings of Japanese architecture just beyond the freeway to the right.

Slide 77. A steel mill in Kawasaki, Japan. Although the steel mill is located in Japan, it might just as well be in Gary, Indiana, or Youngstown, Ohio. It may be pointed out that modernization of transportation and industry, regardless of location, shows a similarity imposed by technology and function.

Slide 78. A high school sumo wrestling tournament in Japan. This sport is certainly more prevalent in Japan than in the United States or Canada. Although traditional sports are popular in Japan, baseball is now probably the most popular sport in the country and a larger percentage of Japanese ski than do Americans.

Slide 79. A Japanese street scene at Christmas time. Although the many signs with Japanese characters make identification of this scene relatively simple, one may be surprised to see the Santa Claus decorations which accompany the signs. Many Japanese people who live in the larger cities participate in a time of gift-giving and goodwill at Christmas although the predominantly Buddhist people do not observe the traditionally religious aspects of the holiday.

Slide 80. Downtown Tokyo at night. This scene could be the main shopping and entertainment area of any modern city. However, the Japanese characters on the signs again are the distinguishable feature. This section of Tokyo is called the Ginza. Western visitors are usually amazed at the number of neon signs which give the Ginza the atmosphere of Las Vegas.

Slide 81. Japan--traditional and modern. This photograph may be used to summarize the Japan of today where traditional and modern elements combine to comprise

the Japanese way of life. The architecture is both modern and traditional. A super-express train can be seen.

Application Two

Two quotations are given below. You should read each of the quotations and consider the directions that follow, in order to plan a short activity appropriate for high school students.

Quotation One. "One does not often speak or read of the war in reality, of its blood and filth, of mutilated flesh, and other revolting things. This restraint is necessary, but it ought to be recognized that the war is not presented when one writes of debates in Congress, of flanking movements, of retreats and advances...of divisions doing this and brigades doing that. In the sense of full realism war cannot be discussed. The human mind will not stand for it. For the very word 'war' the realist would have to substitute some such term as 'organized murder' or 'human slaughterhouse'. In drama as distinguished from melodrama murder often occurs offstage. In most historical accounts, especially military narratives, the war is offstage in that its stench and hideousness do not appear.

Of course it is not suggested that the generation of the sixties had any copyright on blundering. It is not that democracy was at fault. After all...war has not become chronic on these shores, as it has in some nations where politics of force is the rule. One can at least say that the (war) was exceptional; that may be the best thing that can be said about it. A fuller measure of democracy would probably have prevented the war or at least have mitigated its abuses. To overlook many decades of American democracy and take the (war) period as its test, would be to give an unfair appraisal."[1]

Quotation Two. "Late in the afternoon (the) Chief of Staff of the United States Army marched up Pennsylvania Avenue, with a major...at his side. They headed a parade of infantry,...machine guns, tanks and trucks. That formidable array of weaponry, abetted by tear gas bombs... scattered the few who remained. Not content with routing the squatters from the empty government buildings, the troops pursued fleeing women, children...across the river, ...where they burned the shacks that had been home to the

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[1] J.G. Randall, "The Blundering Generation", The Mississippi Valley Historical Review, Volume 27, Number 1, June 1940, pp.3-4, 6-11, 13-16, cited in Kenyon C. Cramer, The Causes of War, Scott, Foresman and Company, 1965, pp.90-91.

pitiful (group) for more than a month. In the last burst of gas bombs at midnight, an 11-month-old baby reportedly died,... [2]

Each of these quotations could be a newspaper or television account of current Vietnam war protests and Civil disorders that have occurred in Washington, D.C. and in other major cities in the United States. In fact, however, Quotation One is a view of the Civil War written in 1940 and Quotation Two is a description of the breaking up of the Bonus March on Washington during the 1930's. If students were given these quotations without being told the sources of the quotations, they might guess that these excerpts describe present-day situations in the United States.

With this explanation in mind, you should be able to take both or just one of these quotations and use the technique of the discrepant data teaching procedure to plan a short activity for high school students, which you could teach in about five to seven minutes. The activity should contain all four of the elements of the discrepant data procedure. If you know of other pertinent material that you could add to these quotations, such as pictures or similar supporting excerpts, you should use them to strengthen the exercise that you will develop.

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[2] "1930-1940," This Fabulous Century, Volume IV. New York: Time-Life Books, 1969. pp.25-26.

You should plan your activity as a lesson and you may be asked to teach it to the class or to one of the other groups. The following questions are given to help you in your planning.

1. What would be the stereotype or misconception that you are attempting to modify?

2. How would you reinforce this misconception?

3. What would be the discrepant element in your teaching sequence?

4. What would be the specific questions and procedures that you would use in this lesson?

5. What kind of unit of study could this lesson introduce?

ANNOTATED BIBLIOGRAPHY

Boggs, Arnold, Maps: How to Read and Interpret Them, Toronto: Clarke, Irwin, & Co., 1952. 64 pages.

This useful pamphlet teaches the basics of topographic map reading. Many maps, diagrams, and photographs are combined with questions in the text. The examples are all taken from Canadian sources. A number of copies could be available to be used by individual students.

Committee on Maps and Aerial Photographs, Sources of Information and Materials: Maps and Aerial Photographs, Boulder, Colorado: High School Geography Project, 1970. 160 pages.

This publication contains an extensive list of sources of maps and aerial photographs arranged by states. Also included is an annotated bibliography on maps and aerial photos. This is a very useful reference for teachers.

Department of the Army Field Manual, Map Reading, F.M. 21-26, Washington, D.C.: U.S. Government Printing Office, 1960. 222 pages.

This is a comprehensive text intended to be used in an introductory way by military personnel. Topographic maps, aerial photographs, field sketching, and terrain models are discussed. This would be a useful reference in the classroom.

Department of the Army Field Manual, Topographic Symbols, F.M. 21-31, Washington, D.C.: U.S. Government Printing Office, 1961. 102 pages.

This text would be supplemental to Map Reading, F.M. 21-26. For each map symbol, a line drawing is presented to illustrate the feature.

Fenton, Edwin, Teaching the New Social Studies in Secondary Schools, New York: Holt, Rinehart and Winston, 1966.

Many examples of lessons based on source materials are contained in the textbook. Some of these materials could be adapted to the discrepant data teaching procedure.

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Graham, Harry, Reading Topographic Maps, Toronto: Holt, Rinehart and Winston, 1968. 119 pages.

Through the use of many maps, photographs, line drawings, and block diagrams, this textbook-workbook introduces students to topographic maps. Ample practice is provided by a variety of exercises based on Canadian sources. The book would be useful as a resource for teachers and students.

Krug, Mark M., History and the Social Sciences, Waltham, Mass.: Blaisdell Publishing Co., 1967.

Much case study material is presented in this textbook which could be adapted to the discrepant data teaching technique. The sections on the Civil War, Reconstruction, and Civics are especially useful.

Leinwand, Gerald and Daniel M. Feins, Teaching History and the Social Studies in Secondary Schools, New York: Pitman Publishing Corp., 1968.

In Chapter Five, "Starting the Lesson," suggestions are given for topics which could be used with the discrepant data teaching procedure.

Massialas, Byron G. and Jack Zevin, Creative Encounters in the Classroom, New York: John Wiley & Sons, 1967.

Examples of inquiry learning based on students working with source materials are provided. Many case studies are presented which could be adapted to the discrepant data teaching procedure, especially those case studies in Chapter Four, "Examining Values."

Massialas, Byron G. and Benjamin Cox, Inquiry in Social Studies, New York: McGraw-Hill, 1966.

This textbook also provides many examples of the use of source materials in classrooms. As some of the examples deal with social and other controversial issues, the material could be adapted to the discrepant data procedure.